

ABSTRACT

Disclosed is an actuator system for positioning a piston within a cylinder and comprising a compressed air source, a positioner, and first and second pneumatic valving modules. The first and second pneumatic valving modules respectively comprise first and second volume boosters to amplify the flow of compressed air, first and second derivative boosters to alternately supply and exhaust compressed air into and out of the first and second ends at high flow rates, and first and second commutators to selectively allow the compressed air to flow respectively between the volume boosters and the derivative boosters. A safety valve opens at a predetermined pressurization level such that the first and second commutators may be energized. A volume tank provides compressed air to each one of the first and second pneumatic valving modules upon energization of the first and second commutators.

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